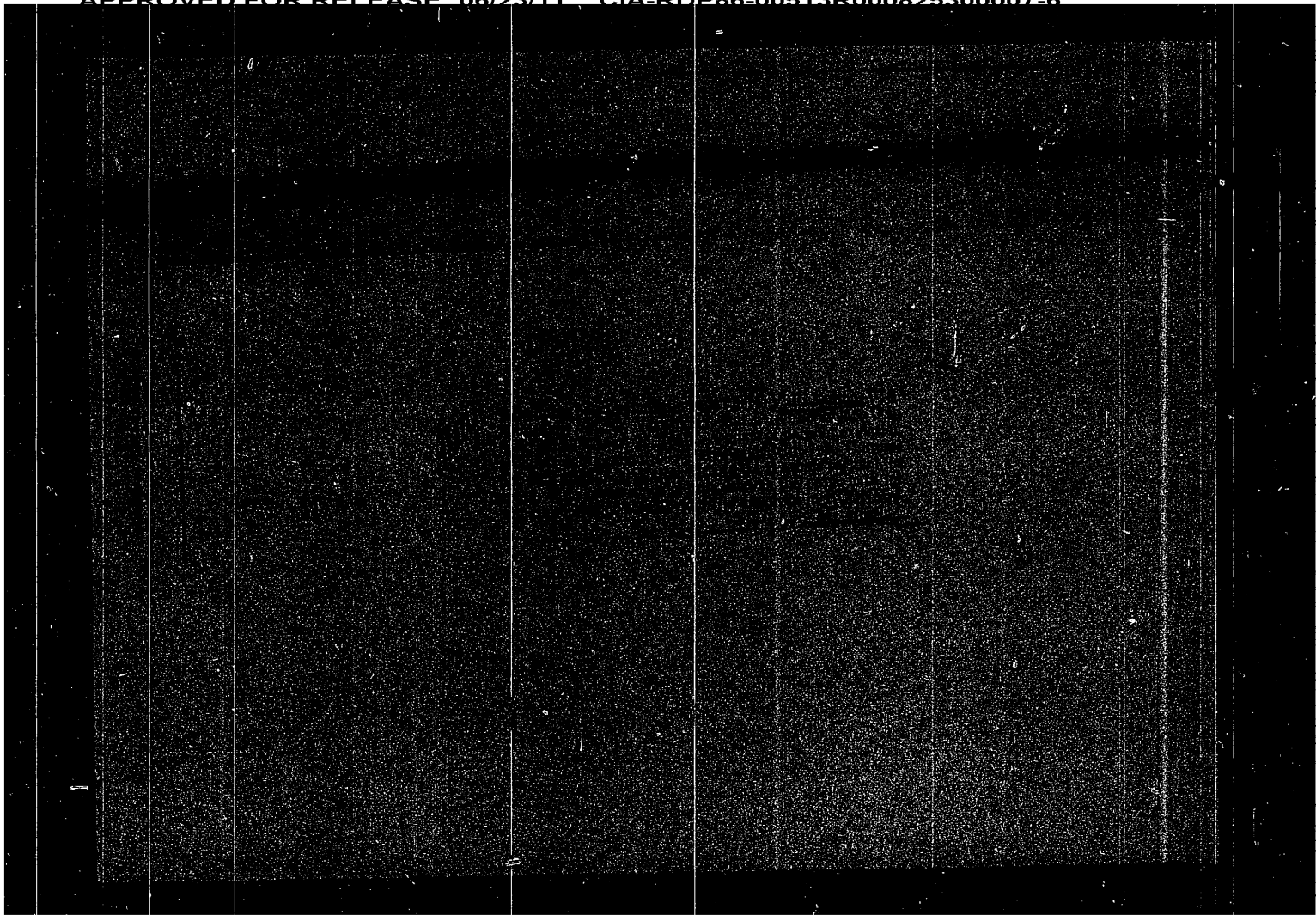
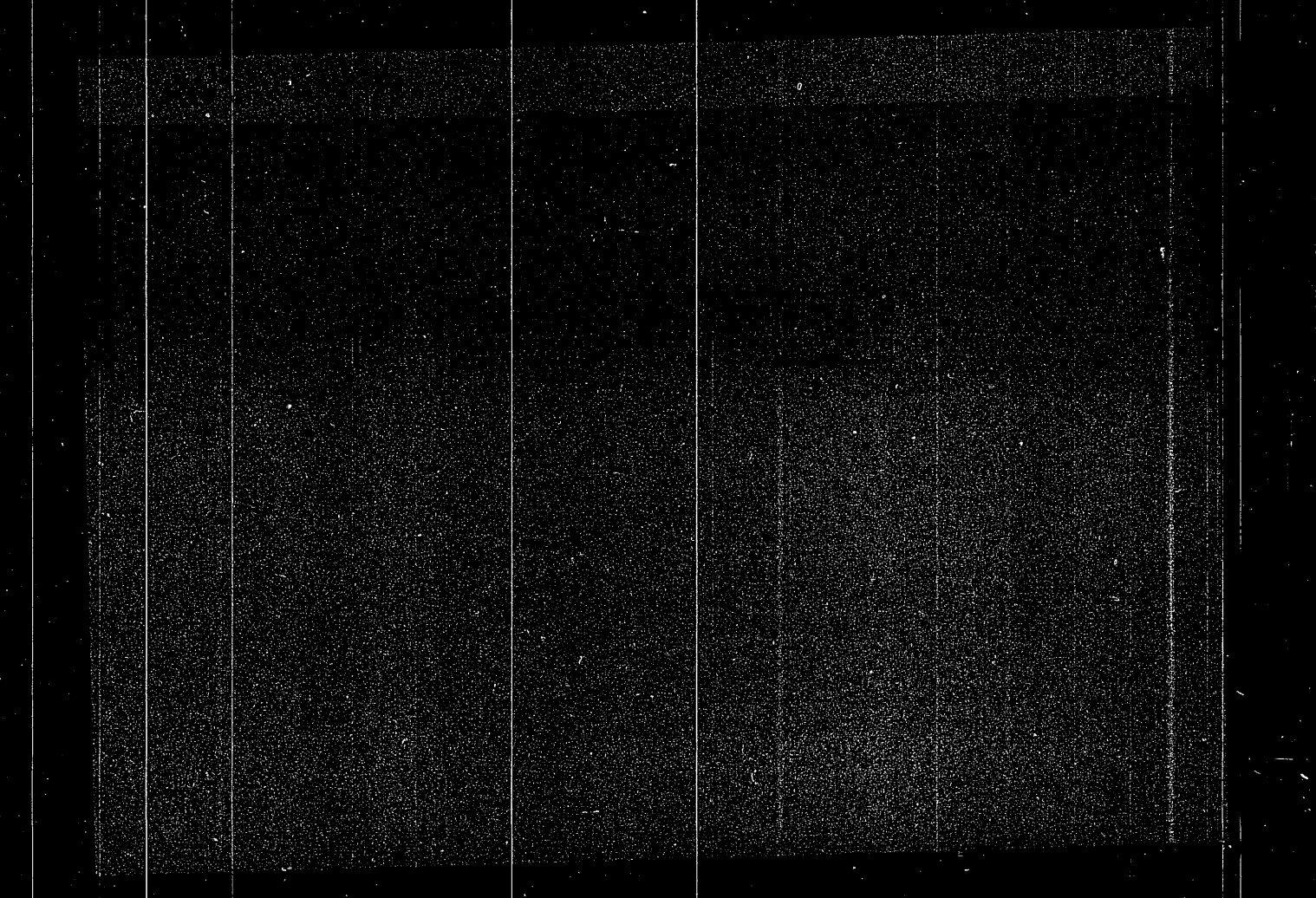


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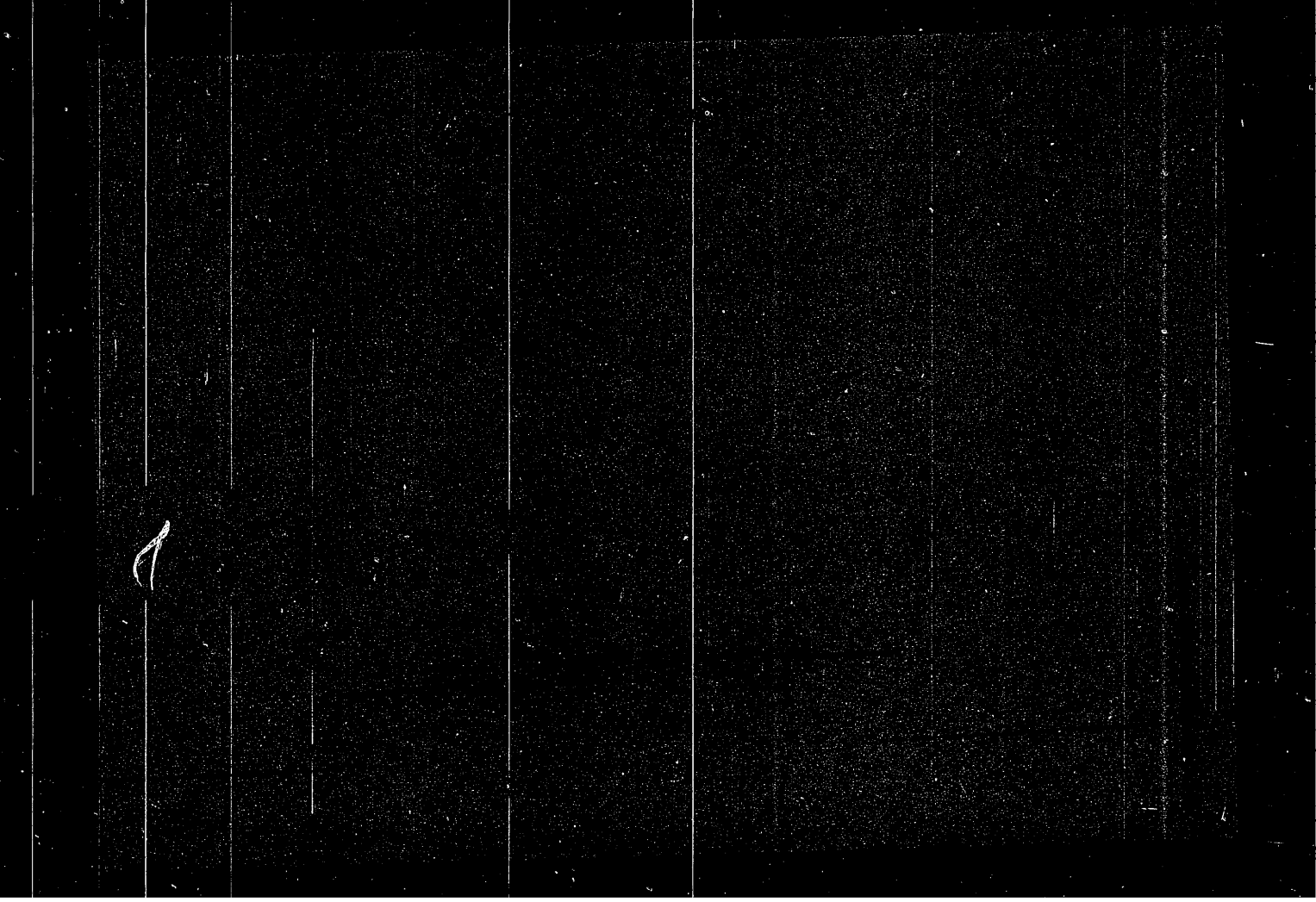


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CA

2

The film-forming ability of gelatin. V. E. Kotina. *Kolloid. Zhur.* 13, 444-6 (1951).—Gelatin was dissolved in H_2O at 45-50° and then (a) poured when its temp. was 40° on cold plastic plates, or (b) cooled to room temp. and then poured on cold plates, or (c) poured at 40° on plates prewarmed to 40°. The films formed from 5% soln. were 0.02-0.05 mm. thick. Their breaking stress σ was 4-8, 8-12, and 10-12 kg. wt./sq. mm. for (a), (b), and (c), resp. In procedure (c), σ was 7-11 for 10% and 4-10 for 25% gelatin; presumably, there is less orientation of polypeptide chains in more concd. solns. Thinner films generally are stronger than thicker films, presumably because orientation is relatively more extensive in the former. Films dried at 40-60° and films of 1% gelatin soln. were very weak. Films obtained by drying *casein* solns. in 0.8% NaOH in air had σ of 3-4 for 5% and 10% solns. The thickness of gelatin films increases on swelling in water more than does their area, because H_2O mols. are bound by active groups spread along the polypeptide chains. J. J. Bikerman

KOTINA, S. Ya.

Children - Diseases

Hemolytic jaundice of newborn as an etiological factor in bilateral athetosis. Vop.
pediat. i okhr. mat. i det., 20, No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December ²1953. Unclassified.

DMITRIYEV, I.V.; KOTINA, R.P.; YAROSHEVSKIY, A.A.

Character of the evolution of a magmatic system in a field of
gradients of intensive parameters. Geokhimiia no.4:390-405
Ap '65. (MIRA 18:7)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo
AN SSSR, Moskva.

DMITRIYEV, L.V.; KOTINA, R.P.; MOISEYEVA, R.P.

Changes of the biotite composition and conditions governing its stability in granitoids of different petrochemical types as revealed by the study of biotites of the Kaibskiy massif (central Kazakhstan). Geokhimiia no.3:220-235 '62. (MIRA 15:4)

1. Vernadsky Institute of Geochemistry and Analytical Chemistry,
Academy of Sciences U.S.S.R., Moscow.
(Kazakhstan--Biotite)

IVANOV, N.A., prof. ~~KOTINA, R-I.~~

Generalized primary amyloidosis of the internal organs and skin.
Sov.med. 22 no.6:113-116 Je '58 (MIRA 11:9)

1. Iz Leningradskogo oblastnogo venerologicheskogo dispansera.
(AMYLOIDOSIS, manifest.
viscera & skin in generalized primary dis. (Rus))
(SKIN, diseases
amyloidosis, generalized primary (Rus))

KOTINA, R. I.

FD 121

USSR/Medicine - Dysentery

Card 1/1

Authors : Khazanov, M. I.; Kotina, R. I.; and Ivanov, V. A.

Title : The epidemiological characteristics of dysentery and their reflection in antiepidemic practice

Periodical : Zhur. mikrobiol. epid. i immun. 4, 11-17, Apr 1954

Abstract : In order to obtain data which could be used to formulate generally valid laws governing the epidemiology of dysentery, the Institute of Epidemiology and Microbiology imeni Gamaleya conducted year long (1952) investigations of the effectiveness of the system of measures employed to control dysentery in an average populated center, the city of T., in an oblast near Moscow. The results of these investigations are compared with previous data obtained elsewhere. Recommendations are made for improving existing therapeutic and organizational procedures. No references are cited.

Institutions: Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences, USSR (Director - Prof. V. D. Timakov) and the Tula Sanitary-epidemiological Station (Chief Physician - M. A. Andreyeva)

Submitted : April 28, 1953

PYPINA, I.M.; KOTINA, R.I.; TIMAKOV, V.D., professor, direktor.

Preliminary data on sources of dysentery and ways in which it spreads in microsectors. Zhur.mikrobiol.epid.i immun. no.7:34-40 J1 '53. (MLRA 6:9)

1. Institut epidemiologii i mikrobiologii imeni pochetnogo akademika N.F. Gamalei Akademii meditsinskikh nauk SSSR. (Dysentery)

GAMOL'SKAYA, Z.M.; GUTERMAN, V.M.; KOTINA, M.M.

Increasing the wear resistance of hydraulic machinery parts.
Metalloved. i term. obr. met. no.11:33-37 N '65.

(MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-tekhnologicheskii institut ugol'nogo mashinostroyeniya.

Application of Microstructural Analysis for
Studying Glass-reinforced Plastics

S/191/60/000/004/012/015
B016/B058

applied. Specimens that were elongated and compressed showed the fiber defects and cracks at the boundary of fiber and resin. The authors finally state that microstructural analysis is suitable for determining the type and mechanism of destruction of grp under the action of various factors. There are 24 figures, 1 table, and 2 Soviet references.

/

Card 3/3

Application of Microstructural Analysis for
Studying Glass-reinforced Plastics

S/191/60/000/004/012/015
B016/B058

glass sheets with BF-2 as binding agent; c) orientated grp from VNIPTUglemash, based on glass tow and polyester resin. The specimens were clamped between two metal plates, cut with a saw, smoothed with a rasp, and finally polished. Polished sections were studied under the metallographic microscope MMM-8M (MIM-8M). The authors describe the detection of the structural elements of grp: glass fiber, binding agent, lubricant, defects, and structure. The direction of the glass fibers and their diameter were determined next. The authors used two methods for determining the quantitative ratio of the main components of grp: a) the method of Razival' (linear method, which they consider to be time-consuming) and b) A. A. Glagolev's point method (Ref.1), which is explained. They studied grp which were subjected to expanding loads. They proved thereby that under the action of such pressure a destruction sets in before the breaking point is reached. Cracks in fibers occur under relatively low pressure. At elevated pressures, grooves appear on the polished section due to split or crumbled fibers. The number of destroyed fibers increases steadily with increasing load. The authors did not observe any interruption of cohesion between fibers and binding agent (resin) in the range of pressures

Card 2/3

S/191/60/000/004/012/015
B016/B058

AUTHORS: Guterma, V. M., Kogan, A. M., Kotina, M. M.
TITLE: Application of Microstructural Analysis for Studying Glass-reinforced Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 4, pp. 58-66

TEXT: The authors report on their studies which were intended to clarify the applicability of microstructural analysis for testing glass-reinforced plastics (grp). The determination of the structure of this material is of importance for a random quality control of the finished products, for developing new types of grp, and for the improvement of their manufacturing methods. Studies conducted at the Department of Polymer Substances of the VNIPTUglemash (All-Union Scientific Research, Design, and Planning Technological Institute of Coal Machinery) showed that the most important structural factors influencing the strength of grp are revealed by microstructural analysis of polished sections. The authors studied: a) grp on the basis of glass fabric, furfural resins, and binding agents of the type E Φ -2 (BF-2); b) "CBAM" ("SVAM") grp on the basis of orientated or crossed

Card 1/3

KOTINA, I.

"Sr. Physician, Children's Dept., Psychopathic Hosp. in. Anshchenko, -c1949-.

"Valentina Vladimirovna Gabovskaya, Distinguished Medical Nurse," Med. Sestra, No. 4, 1949;

"Work of Middle Medical Personnel in a Children's Psychopathic Hospital," Ibid., No. 4, 1949.

L 09899-67

ACC NR: AP6033561

cross-section of hole capture at the radiation defect level $E_c - 0.40$ ev is determined. Orig. art. has: 7 formulas and 5 figures. [Authors' abstract]

SUB CODE: 20/ SUBM DATE: 28Mar66/ ORIG REF: 004/ OTH REF: 002/

Card 2/2 *mlc*

I. 02899-67 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) AT/JD
ACC NR: AP6033561 SOURCE CODE: UR/0181/66/008/010/2994/2998 47

AUTHOR: Gerasimov, A. B.; Konovalenko, B. M.; Kotina, I. M.; Umarova, Kh. F.

ORG: Physicotechnical Institute imeni A. F. Ioffe AN SSSR, Leningrad (Fiziko-
tekhnicheskii institut) AN SSSR

TITLE: Kinetics of bipolar impurity photoconductivity of silicon with radiation
defects 17

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 2994-2998

TOPIC TAGS: photoconductivity, bipolar photoconductivity, radiation, radiation
defect, conductivity

ABSTRACT: Silicon samples with radiation defects at $T = 77K$ were observed to be
characterized by distinctive kinetics in the increase of their impurity photo-
conductivity. An explanation is offered for this phenomenon, which is shown to be
related to the bipolarity of impurity excitation, and an approximate computation is
made of the kinetics of inverse overcharge for a case of low level excitation. The

Card 1/2

KOTINA, A.K.; CHIKHACHEVA, Ye.M.

Study of petrolums in the Mukhanovo field. Trudy VNIGRI no.212.
Geokhim.sbor. no.8:162-192 '63. (MIRA 16:12)

S/815/61/000/174/001/001

Investigation of Ozek-Suat crude .. E073/E436

from the first two oils varies from 52 to 75%, whereas in the tertiary crude it ranges from 45.5 to 60.6%. The aromatic hydrocarbons in the Jurassic and Cretaceous crudes are more cyclic than those in the tertiary oil. The latter crude contains a lower proportion of compounds extractable with urea than the former crudes. The fractions extracted with urea consist almost completely of paraffinic hydrocarbons. The proportions of fractions extracted with thiourea range from 6 to 13% and consist mainly of molecules containing one naphthenic ring with radicals and paraffinic hydrocarbons possessing asymmetric structure. The portion of the crudes not forming complexes with urea and thiourea (residue) constitutes from 24 to 49% of the crudes. The proportion of carbon atoms in naphthenic rings in the residue varies from 35.3 to 58%, the remaining carbon being in methylene chains. In general, it is concluded that the crudes have a pronounced paraffinic nature and are low in sulphur (Jurassic crude - 0.24%, Cretaceous crude - 0.27%, tertiary crude - 0.50%). The analytical methods employed are considered fully satisfactory for the characterization of crude quality.

There are 19 tables.

Card 2/2

S/815/61/000/174/001/001
E073/E436

AUTHORS: Kotina, A.K., Chikhacheva, Ye.M.
TITLE: Investigation of Ozek-Suat crude oils
SOURCE: Leningrad. Vsesoyuznyy neftyanoy nauchno-
issledovatel'skiy geologorazvedochnyy institut.
Trudy. no.174, 1961. Geokhimicheskiy sbornik. no.7,
35-53

TEXT: The compositions of samples of Ozek-Suat crude from Jurassic, lower Cretaceous and tertiary (Maykop) deposits were investigated. The crudes were separated into four fractions consisting of 1) aromatic and sulphur compounds; 2) compounds complexing with urea; 3) compounds complexing with thiourea and 4) residue. Each fraction was distilled into 6 cuts. In the first two crudes the distribution of carbon between the aromatic, naphthenic and paraffin fractions is different from that in the third (tertiary) crude. The total content of aromatic hydrocarbons in the Jurassic and Cretaceous oils is lower (6.1% and 9.5% respectively) than that in the tertiary crude (18.9%) but the percentage of carbon atoms in aromatic rings in the fractions

Card 1/2

S/081/62/000/005/072/112
B160/B138

AUTHORS: Kotina, A. K., Chikhacheva, Ye. M.

TITLE: Investigation of petroleum from the Ozek-Suat deposit

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 520, abstract
5M116 (Tr. Vses. neft. n.-i. geologo-razved. in-ta, no. 174,
1961, 35 - 53)

TEXT: The investigation was carried out by the method of separating the petroleum fractions into 4 groups of hydrocarbons (aromatics, those which form complexes with urea, those which form complexes with thiourea and those which do not form complexes). It was found that the petroleum samples studied belong to the methane type with a high degree of conversion (methanization). Unlike petroleum of the Maykop deposits, Ozek-Suat petroleum of the Jurassic and Cretaceous deposits are very similar in composition, so one may say that they are of the same type. [Abstracter's note: Complete translation.] ✓

Card 1/1

KOTINA, A.K.; CHIKHACHEVA, Ye.M.

Investigation of petroleums of the Ozek-Suat deposit. Trudy
VNIGRI no.174:35-53 '61. (MIRA 14:12)
(Ozek-Suat--Petroleum Analysis)

KOTINA, A.K.; CHIKHACHEVA, Ye.M.

Characteristics of petroleum in the Volga-Ural area. Trudy
VNIGRI no.117:151-185 '58. (MIRA 12:4)
(Volga Valley--Petroleum geology)
(Ural Mountain region--Petroleum geology)

KOTINA, A.K.

3(5) PHASE I BOOK EXPLOITATION SOV/1897

Vsesoyuznyy naftnyy nauchno-issledovatel'skiy geologorazvedochnyy institut.

O proiskhozhdenii nefti v kamennougol'nykh i permakikh otlozheniyakh Volgo-Ural'skoy oblasti; sbornik statey (Origin of Petroleum in the Carboniferous and Permian Sediments of the Volga-Ural District; Collection of Articles) Leningrad, Gosoptekhnizdat, 1958. 283 p. (Series: Itz: Trudy, vyp. 117) Krata slip inserted. 1,500 copies printed.

Ed.: Kinsaidy L'rovny Maymin; Exec. Ed.: G.A. Deyev; Tech. Ed.: I.M. Gennadiyeva.

PURPOSE: This book is intended for geologists and geochemists. Particularly those interested in questions dealing with the origin, development, and structure of oil deposits.

COVERAGE: This collection of articles deal with the Carboniferous and Permian sediments of the Volga-Ural district and methods of determining possible petroleum source-beds. The lithologic and geochemical characteristics of the sediments are discussed as are the conditions of oil deposition. The author thanks the following geologists working in the Second Baku Z.

Rebabin, I.P. Zador, A.M. Kharov, I.M. Kharov, A.M. Mel'nikov, S.P. Regorov, and A.M. Kharov. Further thanks are extended to S.P. Regorov and A.M. Kharov for his advice and encouragement. References accompany each article.

Origin of Petroleum	115
Petrova, Yu.M., I.P. Karpova, I.P. Kasatkina. Organic matter in the Upper Paleozoic Beds of the Volga-Ural Region	151
Kotina, A.K., Ye.M. Chikhacheva. Certain Characteristics of the Oils in the Volga-Ural Region	185
Demenkova, P.Ya., L.M. Zakharenkova, and A.P. Kurbatskaya. The Relationship Between Vanadium and Nickel and the Components of the Oils of the Volga-Ural Region	213
Sinikova, T.L., and M.A. Lomova. The Study of Microflora in the Oil Deposits of the Second Baku	222
Zavadskiy, V.A. Certain Regularities in the Distribution of Oils in the Volga-Ural Region	234
Pomer, V.M. Certain Features of the Development of the Structural-tectonic Pattern in the Middle and the Upper Paleozoic of the Volga-Ural region and the Western Slope of the Urals	

Card 3/4

Origin of Petroleum (Cont.)

Maymin, Z.L. The possibility of outlining the oil-bearing units in a cross-section of the Carboniferous and Permian of the Volga-Ural Region

AVAILABLE: Library of Congress

HW/lab
6-22-59

KOTINA. A.K.

Sulfur distribution in petroleum of the Second Baku. VNIGRI no.105:
195-200 '57. (MIRA 11:9)
(Second Baku--Petroleum--Analysis)

Application. Treatment of Natural Gases and Petroleum.
Motor and Jet Fuels. Lubricants.

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2530

Author : Kotina, A.K.

Inst : All-Union Scientific Research Institute of Geological
Petroleum Exploration.

Title : Methane Hydrocarbons of Normal Structure Found in the
Kerosene Fractions of Some Petroleum Varieties of the
Volga-Urals Region.

Orig Pub : Tr. Vses. neft. n.-i- geologorazved. in-ta, 1957, No 105,
188-194

Abstract : A study of the 200-250° fractions of petroleum from diffe-
rent geological strata and from different deposits. It is
shown that all the petroleum varieties from the Paleozoic

Card 1/2

a mixture of dodecane and tridecane molecules.

Card 2/2

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KOTINA, A.K.

KOTINA, A.K.

Data on the analysis of petroleum of the Volga-Ural region. Trudy
VNIGRI no.82:147-164 '55. (MLRA 8:11)
(Second Baku--Petroleum--Analysis)

KOTINA, A. K.

"Research Data on Curde Oils from the Volga-Ural Region", a chapter of the book, "The Conditions of Petroleum Formation", 1955, *edited by Z.L. Maymin.*

The report deals with findings on the said crude oils yielded by a number of investigations and studies, all of which involved Devonian petroliferous formations.

So: report-D524332

KOTINA, A. K.

"Materials in Studying the Petroleum Deposits in the Volga-Ural Area," page 147 of the book "Formation of Petroleum in the Volga-Urals Area," a compilation of works of the All-Union Sci.Res. Geological Prospecting Inst. ~~XXXXX~~ (VNIGRI), Issue 82, published by Gostoptekhnizdat, 1955

TABCON and summary D 332548, 20 Oct 55

KOTINA, A.

New type of briquetting press. p. 17

STROJIRENSTVI (Ministerstvo tezkého strojírenství, Ministerstvo přesného strojírenství
a Ministerstvo automobilového průmyslu a zemědělských strojů)
Praha, Czechoslovakia
Vol. 9, no. 1, Jan 1959

Monthly list of East European Accessions (EEAI), LC, Vol. 8, no. 7
July 1959
Uncl.

KOTINA, A.

"Briquetting." p. 814. (STROJIRENSTVI. Vol. 4, No. 11, Nov. 1954;
Praha, Czech.)

So: Monthly List of East European Accessions, (EEAL), LC, Vol. 4,
No. 4, April 1955, Uncl..

KOTINA, A.

"Briquetting ." p. 282, Praha, Vol. 4, no. 4, Apr. 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

KOTINA, A.

Utilization of waste products and economizing production by briquetting. p. 223.
ZA SOCIALISTICKOU VEDU A TECHNIKU, Prague, Vol. 4, no. 5, May 1954.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6,
June 1956, Uncl.

ANTONOV, Aleksandr Sergeyevich, prof., doktor tekhn. nauk;
MAGIDOVICH, Yevgeniy Iosifovich, kand. tekhn. nauk, dots.;
NOVOKHAT'KO, Ivan Spiridonovich, kand. tekhn. nauk, dots.;
KOTIN, Zh.Ya., doktor tekhn. nauk, retsenzent; MIKHEYEVA,
R.N., red. izd-va; SPERANSKAYA, O.V., tekhn. red.

[Hydromechanical and electromechanical transmission systems
of transportation and traction machinery; theory, design
principles, construction and calculations] Gidromekhaniche-
skie i elektromekhanicheskie peredachi transportnykh i tia-
govykh mashin; teoriia, osnovy proektirovaniia, konstrukttsiia
i raschet. Pod red. A.S.Antonova. Moskva, Mashgiz, 1963.
350 p. (MIRA 16:7)

(Hydraulic drive) (Electric driving)
(Automobiles--Transmission devices)

CAVRIKOV, K.V.; PRIYMA, G.YE.; SAMANOV, V.V.; KOTIN, Ye.M.

Visual speech reflexometer. Vop. psikhol. il no. 161-162
Mr-Ap '65.

Audio-speech reflexometer. Ibid.:163-164 (MIRA 18:6)

1. Kafedra fiziologii i morfologii Pedagogicheskogo instituta,
Volgograd.

18.3200

75948

SOV/155-59-10-0/39

AUTHORS: Gurskiy, G. V., Kirillov, M. V., Kotin, S. M.,
Skripchuk, V. S.

TITLE: Comments on Recirculation Recuperative Steelmelting
Furnace

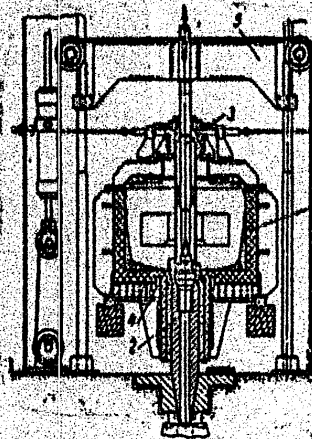
PERIODICAL: Stal', 1959, Nr 10, pp 898-900 (USSR)

ABSTRACT: In comparing performance figures of a recirculation
and an open-hearth furnace, as obtained by Glinkov,
M. A., and Demin, G. I. (Stal', 1959, Nr 1), the
authors point out that working conditions were not
identical for both furnaces and, consequently, re-
sults are inadequate. Six years of tests revealed
that recirculation recuperative furnaces are inferior
in capacity and performance to standard open-hearth
furnaces. There are 2 tables; and 1 Soviet reference.

Card 1/1

1 21790-66
ACC NR: AP6002914

Fig. 1. 1 - electrolyzer chamber; 2 - die; 3 - shaft of punch; 4 - cutter; 5 - cross arm.



electrolyzer is a tubular cylinder mounted in the lower part of the electrolyzer. A die is mounted in the cavity of the cathode cylinder and is used for pressing out the cathode precipitate. The electrolyzer is provided with a device for pressing out the cathode precipitate. This pressing device is in the form of a punch fastened to a shaft. The shaft is connected to a cross arm which moves in a vertical plane. The electrolyzer is also provided with a cutting element for cutting the cathode precipitate. This cutter is mounted on the shaft of the punch and is connected with the drive mechanism. Orig. art. has: 1 figure.

Card 2/2 SUB CODE: 11, 09/SUBM DATE: 23May63

L. 21790-66 EMT(m)/EPF(n)-2/EWA(d)/EWP(t)/EWA(h) JD/WT/JC
 ACC NR: AP6002914

SOURCE CODE: UR/0286/65/000/024/0074/0075

AUTHORS: Kotin, N. N.; Moakvitin, V. I.; Rozanov, N. N.; Nepomnyashchiy, I. V.;
Samson, Yu. U.; Smirnov, S. G.; Tsybul'skaya, Ye. D. 52

ORG: none

TITLE: An electrolyzer for producing high melting metals from molten mediums.
 Class 40, No. 177085 announced by State Scientific Research and Design Institute
 of the Rare Metals Industry (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
 institut redkometallicheskoj promyshlennosti) 7

SOURCE: Byulleten' izobretaniy i tovarnykh znakov, no. 24, 1965, 74-75.

TOPIC TAGS: electrolytic cell, electrolytic extraction, metal electrolytic
 deposition, metal purification

ABSTRACT: This Author Certificate presents an electrolyzer for obtaining high
 melting metals from molten mediums. The electrolyzer is in the form of an air-
 tight chamber with a cutting element for the cathode precipitate. The chamber has
 a cathode and a circular anode (see Fig. 1). The electrolyzer produces a dense
 cathode precipitate suitable for electric slag melting. The cathode of the 10

Card 1/2

UDC: 669.713.7.472 2

KOTIN, N.I.

Complex of meadow soils in lower reaches of the Balykta Lake
floodlands. Pochvovedenie no. 7:44-52 J1 '65 (MIRA 19:1)

1. Institut pochvovedeniya AN KazSSR. Submitted April 8, 1964.

SHAROSHKINA, N.B.; KOTIN, N.I.

Mineralogical characteristics of some Solonetz soils in the
eastern part of Ural'sk Province. Izv. AN Kazakh. SSR. Ser.
biol. nauk 3 no.2:9-14 Mr-Apr '65. (MIRA 18:5)

KOTIN, N.I.

Some characteristics of Solonetz soils in the subzone of light-colored Chestnut soils in central Kazakhstan. Pochvovedenie no.10:23-33 0 '63. (MIRA 16:12)

1. Institut pochvovedeniya AN KazSSR.

SOKOLOV, A.A.; KOTIN, N.I.

Shallow light chestnut soils forming on the binary sediments of mud-volcanic valleys in the southeastern part of the Kazakh peneplain.
Izv. AN Kazakh. SSR. Ser. biol. nauk no.2:25-31 '63.

(MIRA 17:10)

KOTIN, N. I.

Carbonate-rich Solonetz soils in the western part of the Sub-
Ural Plateau. Pochvovedenie no. 7:67-76 J1 '62.
(MIRA 15:10)

1. Institut pochvovedeniye AN KazSSR.

(West Kazakhstan Province--Solonetz soils)

SOKOLOV, A.A.; KOTIN, N.I.

Soloth soils and solodization of the arid steppe and desert-steppe zone of the Semipalatinsk portion of the Irtysh Valley. Pochvovedenie no. 5:43-53 My '61. (MIRA 14:5)

1. Institut pochvovedeniya AN KazSSR.
(Semipalatinsk Province—Soloth soils)

SOKOLOV, A.A.; KOLKHODZHAYEV, M.K.; KOTIN, N.I.

Natural zones, belts, and regions in Semipalatinsk Province. Izv. AN
Kazakh.SSR. Ser. bot. i pochv. no.2:16-29 '61. (MIRA 15:2)
(Semipalatinsk Province--Land)

SOKOLOV, A.A.; KOTIN, N.I.

Lithogenous soil complexes of the southeastern part of the Kazakh undulating plain. Pochvovedenie no.10:1-7 '60. (MIRA 13:10)

1. Institut pochvovedeniya Akademii nauk KazSSR.
(Kazakhstan--Soils)

SOKOLOV, A.A.; DZHANPEISOV, R.; KOTIN, N.I.

Subaerial meadow-steppe Solonetz complexes in the middle
Irtysh Vally. Pochvovedenie no.7:32-42 '60.
(MIRA 13:7)

1. Institut pochvovedeniya Akademii nauk KazSSR.
(Pavlodar Province--Solonetz soils)
(Semipalatinsk Province--Solonetz soils)

KOTIN, G.; KLEYTMAN, S.

Efficient organization of tool management. Avt. transp. 34 no.
6:22-24 Je '56. (MLRA 9:9)

(Cutting tools)

KOTIN, G.; LOMAKIN, K.; KLEYTMAN, S.

Repair of distributing shaft bearings of the GAZ-51 and ZIS-120
engines. Avt.transp.33 no.8:24-26 Ag'55. (MLRA 8:12)
(Automobiles--Engines)

KOTIN, G.

Apparatus for testing the perpendicularity of the cylinder axis
with the axis of the engine crankshaft. Avt.transp.32 no.10:36
0 '54. (MLRA 7:12)

1. Khar'kovskiy avtoremontnyy zavod Ministerstva stroitel'stva.
(Automobiles--Engines)

KOROLEV, A.I.---(continued) Card 2.

10. Nizhne-Tagil'skiy metallurgicheskii kombinat (for Medvedev, Novolodskiy, Vecher). 11. Zavod "Azovstal'" (for Bul'skiy, Slepkanov). 12. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (for Trubetskoy). 13. Ukrainskiy institut metallov (for Smeyerov, Sladkovskiy, Kotin). 14. Zavod "Krasnyy Otkryt'" (for Palant). 15. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki (for Kurochkin). 16. Zavod im. Voroshilova (for Sabiyev). 17. Chelyabinskiy politekhnicheskii institut (for Morozov). 18. Giprostal' (for Garbuz). 19. Ural'skiy institut chernykh metallov (for Pastukhov). 20. Zavod im. Petrovskogo (for Zhigulin). 21. Ministerstvo chernoy metallurgii USSR (for Molotkov, Siverskiy). 22. Glavspetsstal' Ministerstva chernoy metallurgii SSSR (for Nikolayev).

(Open-hearth process)

KOROLEV, A.I.; BLINOV, S.T.; LUBNETS, I.A.; KOBURNEYEV, I.M.; TURUBINER, A.L.; VASIL'YEV, S.V.; CHERNENKO, M.A.; BELOV, I.V.; TELESOV, S.A.; MAZOV, V.F.; MEDVEDEV, V.A.; MAL'KOV, V.G.; BUL'SKIY, M.T.; TRUBETSKOV, K.M.; SHNURYEROV, Ya.A.; SLADKOSHTEYEV, V.T.; PALANT, V.I.; KUROCHKIN, B.N.; ZHDANOV, A.M.; BELIKOV, K.N.; SABIYEV, M.P.; GARBUZ, G.A.; PODGORETSKIY, A.A.; ALFEROV, K.S.; NOVOLODSKIY, P.I.; MOROZOV, A.N.; VASIL'YEV, A.N.; MARAKHOVSKIY, I.S.; MALAKH, A.V.; VERKHOVTSEV, E.V.; AGAPOV, V.F.; VESHER, N.A.; PASTUKHOV, A.I.; BORODULIN, A.I.; VAYNSHTEYN, O.Ya.; ZHIGULIN, V.I.; DIKSHTEYN, Ye.I.; KLIMASENKO, L.S.; KOTIN, A.S.; MOLOTKOV, N.A.; SIVERSKIY, M.V.; ZHIDETSKIY, D.P.; MIKHAYLETS, N.S.; SLEPKANOV, P.N.; ZAVODCHIKOV, N.G.; GUDENCHUK, V.A.; NAZAROV, P.M.; SAVOS'KIN, M.Ye.; NIKOLAYEV, A.S.

Reports (brief annotations). Bial. TSVIICHM no.18/19:36-39 '57.

(MIRA 11:4)

1. Magnitogorskiy metallurgicheskiy kombinat (for Korolev, Belikov, Agapov, Dikshteyn). 2. Kuznetskiy metallurgicheskiy kombinat (for Blinov, Vasil'yev, A.N., Borodulin, Klimasenka). 3. Chelyabinskiy metallurgicheskiy zavod (for Lubnets, Vaynshteyn). 4. Zavod im. Dzerzhinskogo (for Koburneyev). 5. Zavod "Zaporozhstal'" (for Turubiner, Mazov, Podgoretskiy, Marakhovskiy, Savos'kin). 6. Makeyevskiy metallurgicheskiy zavod (for Vasil'yev, S.V., Mal'kov, Zhidetskiy, Al'ferov). 7. Stal'proyekt (for Chernenko, Zhdanov, Zavodchikov). 8. VNIIT (for Belov). 9. Stalinskiy metallurgicheskiy zavod (for Telesov, Malakh).

(Continued on next card)

ZAYTSEV, I.F.; VDOVIN, D.I.; GNEDOV, N.P.; BLAGOV, I.S.; ZIMASKOV, V.A.;
KOTKIN, A.M.; LEKHTSIYER, I.S.; MIROSHNIKOV, V.G.; OSYKIN, V.T.

Separator for dressing lump material. Gor. zhur no.4:76 Ap '63.

(MIRA 16:4)

(Separators (Machines))

KOTKIN, A.M.

Flow sheets of coal preparation and dehydration in hydraulic mine complexes. Ugol'.prom. no.1:35-40 Ja-F '62. (MIRA 15:8)

1. Zamestitel' direktora po nauchnoy rabote UkrNIIugleobogashcheniye.
(Coal preparation) (Hydraulic mining)

BLAGOV, I.S.; KOTKIN, A.M.; FOMENKO, T.G.; RYKOV, N.A., otv. red.;
ROMANOVA, L.A., red. izd-va; OVSEYENKO, V.G., tekhn. red.;
LAVRENT'YEVA, L.G., tekhn.red.

[Gravity ore dressing processes; theoretical principles] Gra-
vitatsionnye protsessy obogashcheniia; teoreticheskie osnovy.
Moskva, Gosgortekhnizdat, 1962. 230 p. (MIRA 15:11)
(Ore dressing)

KOTIN, A. I.

KOTIN, A. I. -- "Semicoking of Combustible Shale and Catalytic Cracking of a Vapor Gas Mixture Before Its Condensation, Combined in One Furnace Unit." Sub 5 Jun 52, Moscow Inst of Chemical Machine Building. (Dissertation for the Degree of Candidate in Technical Sciences).

SO: Vechernaya Moskva, January- December 1952

SHCHERBAKOV, V.A.; ABROSIMOV, Ye.V.; Primalni uchastiye: USHAKOV, Ye.N.;
KOZLOV, V.I.; KOTIN, A.G.; SABIYEV, M.P.

Slag conditions during melting in high-capacity open-hearth
furnaces. Izv. vys. ucheb. zav.; chern. met. 6 no.7:59-64
'63. (MIRA 16:9)

1. Moskovskiy institut stali i splavov.
(Open-hearth process) (Slag)

POYARKOV, Aleksey Mikhaylovich; KOTIN, A.G., otv. red.; KRAVTSOV,
P.Ya., otv. red.; LIBERMAN, S.S., red. izd-va; ANDREYEV, S.P.,
tekhn. red.

[Steelmaking]Proizvodstvo stali. Izd.2., ispr. 1 dop. Khar'kov,
Metallurgizdat, 1962. 520 p. (MIRA 15:10)
(Steel--Metallurgy)

ANTIPENKO, Grigoriy Ivanovich; KAPLANSKIY, Yakov Yefimovich;
GRABEL'SKIY, Abram Davydovich; KOTIN, A.G., otv. red.;
SINYAVSKAYA, Ye.K., red.izd-vd; ANDREYEV, S.P., tekhn.
red.

[Pouring electrical steel; from practices of the "Dneprostal"
Plant] Razlivka elektrostali; opyt zavoda "Dneprospetsstal".
Khar'kov, Metallurgizdat, 1962. 35 p. (MIRA 16:4)
(Zaporozh'ye--Steel--Electrometallurgy)
(Steel ingots)

SHNEYEROV, Ya.A., kand.tekhn.nauk; DERFEL', A.G., kand.tekhn.nauk; KOTIN,
A.G., kand.tekhn.nauk; Primali uchastiye: ZAYTSEV, I.A.; KURAPIN,
~~B.S.~~; LEVITASOV, Ya.M.; SUKACHEV, A.I.; TRET'YAKOV, Ye.V.; UMNOV,
V.D.; SHUKSTUL'SKIY, I.B.

Reducing the consumption of ferromanganese in the making of open-
hearth steel. Trudy Ukr. nauch.-issl. inst. met. no.7:103-114
'61.

(MIRA 14:11)

(Steel--Metallurgy) (Ferromanganese)

2.

Improvement of steel-smelting technology in...

3/137/61/000/611/024/123
AO50/A101

stone mixture are cited. As result of reducing the smelting time the total duration of the heat was reduced by 15 min on the average. Liquid slags with floating pieces of limestone were noted during the smelting period. The mean slag basicity after the melting turned out to be considerably lower than in ordinary heats, which deteriorated the conditions of metal desulfuration. The finishing of the experimental heats, on account of the higher S content at a low C content (during smelting in the presence of high acidity slag much more C was burned out than in ordinary heats) is made more difficult and requires the addition of large quantities of limestone, and in special heats, also of Fe-Mn. The inefficiency of the use of ore-limestone mixture is noted, since a very small effect is achieved by it. The main indices of heats with the reduction in ladles and in the furnace are cited. Reduction in the furnace lowers the duration of the finishing, reduces the Mn burn-off (by 30% on the average) and the saving of about 3 kg of Fe-Mn per ton of steel is effected. Despite a somewhat greater complexity of the technological process the method of reducing the smelt in the ladle while smelting in high-capacity furnaces is recommended for large-scale production.

[Abstracter's note: Complete translation]

I. Polyak

Card 3/3

2

Improvement of steel-smelting technology in...

S/137/61/000/011/024/123
AC60/A101

tion: Fe 47 - 52%, SiO_2 5.4 - 6.9%, CaO 10.1 - 14.1%; basicity 1.8 - 2.2. To raise the basicity of the slag, limestone ($\sim 1.3\%$ of the weight of the metallic charge) was added to the charge after the melting. The main indices of the experimental and control smeltings with the use of briquets are cited, from which it follows that with practically the same composition of the metallic charge the quantity of loose materials in operating with briquets is less by 13.5 tons (2.8% by weight of the metallic charge and 12.3% of the total weight of ore and limestone). In smelting with briquets as compared with ordinary control smeltings the mean charging duration is reduced by 15 min. and that of the smelting by 1 hr 34 min. The basicity of the slag in smelting with briquets is somewhat higher than that in ordinary smeltings due to the lower SiO_2 content in the charge. Despite the fact that with the use of briquets the tapping duration is increased on account of the higher C content after the melting (by 0.11%), the total smelting duration is then still 1 hr 15 min less than that of ordinary heats. This corresponds to an increase of 9% in the hourly productivity of the furnace. The effectiveness of using lump materials in the charge is noted. The ore-limestone mixture was prepared earlier in the charge yard at ore to limestone weight-ratios of 2:1 to 1:1. The results of experimental heats with ore-lime-

Card 2/3

KOTIN, A.G.

S/137/61/000/011/024/123
A060/A101

AUTHORS: Ushakov, Ye. M., Abrosimov, Ye. V., Kozlov, V. I., Shcherbakov, V. A., Kotin, A. G., Saliyev, M. P.

TITLE: Improvement of steel-smelting technology in high-capacity open-hearth furnaces

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 38, abstract 11V227 (V sb.: "Novoye v teorii i praktike proizvodstva martenovsk. stali", Moscow, Metallurgizdat, 1961, 125 - 132. Discuss. 193 - 201)

TEXT: The authors describe the results of the investigations of the conditions of slag formation and their effect upon the productivity of high-capacity open hearth furnaces under the conditions of replacing ore and limestone in the charge by ore-limestone briquets or a premixed ore-limestone mixture. The article also describes the investigation of various variants of metal reduction. In order to exclude the influence of the thermal schedule, the experimental and ordinary smeltings were carried out at practically the same thermal loads: 35 - 38 million kcal during the charging and 25 - 27 million kcal during the finishing. The ore-limestone briquets from the Krivorozh'ye plant had the following composi-

Card 1/3

Physicochemical Bases of (Cont.)

SOV/5411

- | | |
|--|----|
| Panov, A. S., and P. N. Perchatkin. Comparison of the Desulfurizing Capacity of Oxides During the Melting Period in Processing Low-Manganese Pig Irons | 66 |
| Shneyerov, Ya. A., <u>A. G. Kotin</u> , and A. G. Derfel'. Accelerating the Open-Hearth Process in the Preparation of the Charge (Pig Iron and Loose Materials) | 70 |
| Shneyerov, Ya. A., A. I. Sukachev, and <u>A. G. Kotin</u> . Accelerating the Slag Formation and Melting Processes by Blowing Oxygen Into the Bath During the Meltdown Period | 81 |
| Kazachkov, Ye. A. Kinetics of the Oxidation of Low-Concentrated Carbon in the Open-Hearth Bath | 88 |
| Zorin, O. D., and A. Ye. Khlebnikov. The Kinetic Decarburization | |
| Card 5/16 | |

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Physicochemical Bases of (Cont.)

SOV/5411

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

Card 2/16

KOTIN, A. G.

115

PHASE I BOOK EXPLOITATION SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th,
Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii
(Physicochemical Bases of Steel Making; Transactions of the
Fifth Conference on the Physicochemical Bases of Steelmaking)
Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted.
3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni
A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy
of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg.
Tech. Ed.: V. V. Mikhaylova.

Card 1/16

New [Developments] in the Theory (Cont.)

BOV/5556

10

Kleyn, A.L., and P.V. Umrikhin [Ural Polytechnic Institute]. Slag Formation When Using Composite Flux Produced by Calcination of Lime-Bauxite Mixture

117

Ushakov, Ye. N. [Candidate of Technical Sciences], Ye. V. Abrosimov, [Docent, Candidate of Technical Sciences], V.I. Kozlov, V.A. Shcherbakov [Engineers], A.G. Kotin [Candidate of Technical Sciences], and M.P. Sabiyev [Engineer], [Moscow Steel Institute, Ukrainskiy nauchno-issledovatel'skiy institut metallov - Ukrainian Scientific Research Institute of Metals, Alchevskiy metallurgicheskii zavod - Alchevsk Metallurgical Plant]. Improving the Steelmaking Process in Large-Capacity Open-Hearth Furnaces

125

Voloshina, N.M. [Engineer]. Using Ore-Lime Briquets Instead of Ore and Lime in the Open-Hearth Process

133

[D.I. Sapiro, P.I. Kovalev, S.I. Zhmak, G. Ye. Kravtsov, Engineers, and I.M. Tkachenko, A.P. Polotayev, Technicians participated in the research work]

Ofengenden, A.M. [Engineer]. Accelerating the Slag Formation and Desulfurization in the Open-Hearth Process

140

Card 6/14

New [Developments] in the Theory (Cont.)

SOV/5556

COVERAGE: The collection contains papers reviewing the development of open-hearth steelmaking theory and practice. The papers, written by staff members of schools of higher education, scientific research institutes, and main laboratories of metallurgical plants, were presented and discussed at the Scientific Conference of Schools of Higher Education. The following topics are considered: the kinetics and mechanism of carbon oxidation; the process of slag formation in open-hearth furnaces using in the charge either ore-lime briquets or composite flux (the product of calcining the mixture of lime with bauxite); the behavior of hydrogen in the open-hearth bath; metal desulfurization processes; the control of the open-hearth thermal melting regime and its automation; heat-engineering problems in large-capacity furnaces; aerodynamic properties of fuel gases and their flow in the furnace combustion chamber; and the improvement of high-alloy steel quality through the utilization of vacuum and natural gases. The following persons took part in the discussion of the papers at the Conference: S.I. Filippov, V.A. Kudrin, M.A. Glinkov, B.P. Nam, V.I. Yavovskiy, G.N. Oyks and Ye. V. Chelishchev (Moscow Steel Institute); Ye. A. Kazachkov and A. S. Kharitonov (Zhdanov Metallurgical Institute); N.S. Mikhaylets (Institute of Chemical Metallurgy of the Siberian Branch of the Academy of Sciences USSR); A.I. Stroganov and D. Ya. Povolotskiy (Chelyabinsk Polytechnic Institute); P.V. Umrikhin (Ural Polytechnic Institute); I.I. Fomin (the Moscow "Serp i molot" Metallurgical Plant); V.A. Fuklev (Central Asian Polytechnic Institute).

Card 2/14

New [Developments] in the Theory (Cont.)

80V/5556

and M.I. Beylinov (Night School of the Dneprodzerzhinsk Metallurgical Institute).
References follow some of the articles. There are 268 references, mostly Soviet.

TABLE OF CONTENTS:

Foreword	5
Yavovskiy, V. I. [Moskovskiy institut stali - Moscow Steel Institute]. Principal Trends in the Development of Scientific Research in Steel Manufacturing	7
Filippov, S. I. [Professor, Doctor of Technical Sciences, Moscow Steel Institute]. Regularity Patterns of the Kinetics of Carbon Oxidation in Metals With Low Carbon Content [V. I. Antonenko participated in the experiments.]	15
Levin, S. L. [Professor, Doctor of Technical Sciences, Dnepropetrovskiy metallurgicheskii institut - Dnepropetrovsk Metallurgical Institute].	
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KOTIN, A G.

PHASE I BOOK EXPLOITATION

80V/5556

85

Moscow. Institut stali.

Novoye v teorii i praktike proizvodstva martenovskoy stali (New [Developments] in the Theory and Practice of Open-Hearth Steelmaking) Moscow, Metallurgizdat, 1961. 439 p. (Series: Trudy Mezhdvuzovskogo nauchnogo soveshchaniya) 2,150 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy institut stali imeni I. V. Stalina.

Eds.: M. A. Glinkov, Professor, Doctor of Technical Sciences, V. V. Kondakov, Professor, Doctor of Technical Sciences, V. A. Kudrin, Docent, Candidate of Technical Sciences, G. N. Oys, Professor, Doctor of Technical Sciences, and V. I. Yavovskiy, Professor, Doctor of Technical Sciences; Ed.: Ye. A. Borko; Ed. of Publishing House: N. D. Gromov; Tech. Ed.: A. I. Karasev.

PURPOSE: This collection of articles is intended for members of scientific institutions, faculty members of schools of higher education, engineers concerned with metallurgical processes and physical chemistry, and students specializing in these fields.

Card 1/14

SHNEYEROV, Ya.A.; LEPORSKIY, V.V.; KAZARNOVSKIY, D.S.; KOTIN, A.G.; KURMANOV, M.I.; SUKACHEV, A.I.; SLADKOSHTEYEV, V.T.; BUL'SKIY, M.T.; SVIRIDENKO, F.F.; SIDEL'KOVSKIY, M.P.; KOZHEVNIKOV, I.Yu., red.; BORODAVKIN, M.L., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Converting phosphorous cast iron in open-hearth furnaces] Peredel fosforistykh chugunov v martenovskikh pechakh. Moskva, Gos. nauchno-tekhn. izd-vo po chernoi i tsvetnoi metallurgii, 1961. 256 p.

(MIRA 14:8)

(Open-hearth process)

SOV/133-59-5-6/31
Efficiency of the Use of Sinter and Briquettes Instead of Ore and Limestone in Open-hearth Furnaces

production of fluxed briquettes and sinters for the open-hearth furnaces and their wide application in steel-making practice is recommended. There are 11 figures, 3 tables and 6 Soviet references.

ASSOCIATIONS: Ukrainskiy institut metallov (Ukrainian Institute of Metals) and Zavod imeni Dzerzhinskogo (imeni Dzerzhinskiy Works)

Card 4/4

Efficiency of the Use of Sinter and Briquettes Instead of Ore and Limestone in Open-hearth Furnaces ^{SOV/133-59-5-6/31}

period. The use of fluxed briquettes or sinter of a basicity 2.0 - 2.5 without additions or with minimal additions of ore and limestone made it possible:

- 1) to decrease the melting period in 370-ton furnaces by 40-45 min with an increase in the furnace productivity of 6-7%;
- 2) to decrease the duration of heating up successive layers of granular materials during the charging period as well as their heating after the charging is completed (which permitted a further decrease of 10-15 min in the duration of heats);
- 3) to increase slag basicity in the course of smelting and to decrease the FeO content of slag at the beginning of the melting period and to increase its FeO content at the end of this period;
- 4) to increase the dephosphorising and desulphurising ability of slag due to its earlier formation and higher basicity throughout the whole course of smelting and
- 5) to exclude blow-outs from the furnace during melting.

The briquettes and sinters can also be used with success during refining. The organisation of a large-scale

Card3/4

SOV/153-59-5-6/31

Efficiency of the Use of Sinter and Briquettes Instead of Ore and Limestone in Open-hearth Furnaces

sinters from 0.4 to 2.2). Changes in the basicity and FeO content in slag in the course of smelting are shown in Figures 1 and 2, respectively, the main indices of the experimental and comparative heats in Table 2, the comparison of the amounts of CaO, SiO₂ and Σ FeO transferred to slag from various granular materials - Table 3, changes in the SiO₂ content of slag in the course of smelting for various heats - Figures 3 and 8, the same changes in slag basicity - Figure 4, the same changes in the P₂O₅ content - Figures 5 and 9, the same changes in the CaO content - Figure 6, the same changes in the Σ FeO and CaO and Σ FeO contents - Figures 7 and 11, the same changes in the content of sulphur - Figure 10. It was found that the use of fluxed briquettes or sinters instead of ore and limestone leads to a considerably faster formation of slag during the melting down period, to an earlier slag removal and to a corresponding decrease in the melting

Card2/4

AUTHORS: Derfel', A.G., Dubina, Yu.G., ^{SOV/133-59-5-6/31}Kotin, A.G., Myshonkov, N.I.,
Sologub, S.L., Tret'yakov, Ye.V., Khmirov, V.I.,
Chernenko, F.A. and Shneyerov, Ya.A.

TITLE: Efficiency of the Use of Sinter and Briquettes Instead of
Ore and Limestone in Open-hearth Furnaces (Effektivnost'
primeneniya v martenovskikh pechakh aglomerata i briketov
vzamen rudy i izvestnyaka)

PERIODICAL: Stal', 1959, Nr 5, pp 400 - 407 (USSR)

ABSTRACT: In order to compare the efficiency of using fluxed sinter
and ore-lime briquettes instead of ore and limestone in
open-hearth furnaces as well as to determine the optimum
composition of the above agglomerated materials, experi-
mental heats were carried out in 370-ton open-hearth
furnaces at the imeni Dzerzhinskly Works during 1957-1958 .
Altogether 63 heats with briquettes, 76 with sinters of
various compositions and 90 comparative heats using ore
and limestone were made. All heats were made in the
same furnaces and during the same periods. The composition
of briquettes and sinters tested is given in Table 1
(basicity of briquettes varied from 0 - 5.4 and of

Card1/4

KOTIN, A. G.

О.Д.Зарин
А.Е.Хлебозин
И.А.Шварц
А.Г.Котин
А.Г.Дарин

Темы статического «Чугуноромаше-
ния» в газосварочном и металл.
Ускорение мартовской работы ку-
том подготавливает металл.

Я.А.Шварц
А.И.Султанов
А.Г.Котин

Ускорение процессов сварки обра-
ботки и обработки металла при по-
мощи электрода в вакуумной и вакуум-
ной печи в металлургическом.

Ф.П.Капустин

Применение автоматических расчет-
ных и анализ сварочных систем
автоматического управления.

Ф.П.Капустин

Механика системы статической
и динамической сварки при
напряжении металла.

В.А.Косов

Качество сварочного процесса при
напряжении металла при
напряжении металла.

report submitted for the 5th Physical Chemical
Conference on Steel Production, Moscow— 30 Jun 1959.

SOV/133-58-8-6/30

Experiments on a Pre-treatment of Pig Iron in Ladles with a Steam Oxygen Mixture

on surface blowing (with 15 kg/t additions of limestone and ore); 6) the consumption of blowing tubes was 100 mm for ladle with surface blowing and 300-400 mm when the tube is immersed; 7) the total losses of metal on blowing were about 0.15%.

There are 7 figures, 5 tables and 7 references, 3 of which are Soviet and 4 English.

ASSOCIATIONS: Ukrainskiy institut metallov (Ukrainian Institute of Metals) and Zavod "Azovstal'" ("Azovstal'" Works)

Card 5/5

1. Iron--Production 2. Silicon--Oxidation 3. Oxygen
--Applications 4. Steam--Applications 5. Dippers--Applications

NOV/133-58-8-6/30

Experiments on a Pre-treatment of Pig Iron in Ladles with a Steam
Oxygen Mixture

following results were obtained (in brackets the percent of the initial content):

	Si	Mn	C	S
Phosphorus				
Iron	0.44(66.7)	0.78(40.0)	0.31(8.0)	0.023(19.0)
Usual iron	0.52(73.5)	0.62(30.5)	0.20(4.5)	0.025(26.0).

During surface blowing of oxygen (without immersing the tube into the iron), the oxidation of the elements remained the same; 3) on blowing with oxygen-steam mixture (20-40% by wt. of steam) the formation of brown fumes was not observed. With an increasing proportion of additions to the ladle the consumption of steam in the oxygen steam mixture was decreasing. On blowing without immersing the tube the proportion of steam can be decreased to 20%; 4) the increase in the iron temperature during surface blowing is higher than when blowing with an immersed tube. The temperature of the iron after blowing with the optimum additions of limestone and ore is 40 °C higher than the usual iron temperature delivered to the mixer; 5) the maximum utilization of the volume of the ladle (up to 85%) was obtained

Card4/5

SOV/133-58-8-6/30
Experiments on a Pre-treatment of Pig Iron in Ladles with a Steam
Oxygen Mixture

consumption of oxygen of $4.8 \text{ m}^3/\text{t}$ and of steam 4.0 kg/t at a pressure of 4.5 atm. , the following elements are oxidised: 0.20% of silicon (41.5% of the initial content), 0.55% of manganese (29.5% of the initial content), and 0.29% of carbon (7.3% of the initial content). During the transport of the ladle, the content of sulphur was decreased by 0.027% and during blowing it was increasing by 0.003, thus the decrease in the sulphur content was 0.024% (21.2% of the initial content). The content of phosphorus remains practically unchanged. On blowing low phosphorus iron, the oxidation of iron admixtures was on the same level as for phosphorus iron; 2) the introduction of oxidising and slag-forming admixtures into the ladle during its filling with iron helped in oxidising the iron admixtures during the filling and the transport of the ladle and noticeably improved their oxidation during the blowing of oxygen. The best results in respect of the oxidation of admixtures, utilisation of oxygen and increasing the iron temperature were obtained with additions of 15 kg of ore and 15 kg of limestone per ton of iron. Under the above conditions, the

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of additions and mean data on the elimination of pig-iron impurities during filling of the ladle, its transport to the mixer and during 15, 30 and 45 minutes of blowing oxygen, as well as mean iron temperatures before and after blowing are given in Tables 1 and 2. The dependence of the degree of de-siliconisation during 45 minutes of blowing on the initial concentration of silicon - Figure 4 and on the consumption of oxygen - Figure 5; mean consumption of oxygen and steam and limits of their variation for blowing with various additions to the ladle - Table 3; the dependence of oxidation of manganese during 45 minutes of blowing on the consumption of oxygen - Figure 6; the all of the iron temperature during filling of the ladle and its transport to the place of the treatment - Table 4; the influence of the oxygen-steam ratio on the increase of the iron temperature during 45 minutes of blowing - Figure 7; changes in the chemical composition of iron along the height of the ladle after blowing - Table 5. Conclusions: 1) as a result of blowing phosphorus pig-iron (about 1.5% of P) in the ladle with an oxygen-steam mixture at a specific

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AUTHOR: Shneyerov, Ya.A., Derfel', A.G., Kotin, A.G.,
Bul'skiy, M.T. and Alimov, A.G. SOV/133-58-8-6/30

TITLE: Experiments on a Pre-treatment of Pig Iron in Ladles
with a Steam Oxygen Mixture (Opyt predvaritel'noy
obrabotki chuguna v kovshakh parokislородnoy smes'yu)

PERIODICAL: Stal', 1958, Nr 8, pp 694 - 702 (USSR)

ABSTRACT: Experimental results obtained on the de-siliconisation of pig iron in ladles by blowing an oxygen-steam mixture with and without various additions to the ladle are described. The treatment was carried out on the way to the mixer in the open-hearth melting shop. The experimental set-up is shown in Figure 1. Initially, blowing of pure oxygen was tried but, due to the formation of copious fumes, this was discontinued and an oxygen-steam mixture was used, steam being added according to blowing conditions to keep the formation of fumes down. The method of mixing oxygen with steam is shown in Figure 2 and the sampling device for taking samples from the ladles in the course of blowing - Figure 3. Additions of ore, limestone and ore-limestone mixtures to the ladle were introduced at blast furnaces during the filling of the ladle with iron. The compositions

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SOV/130-58-8-5/18
Pre-refining Pig Iron in Ladles with a Steam-oxygen Mixture

There are 2 figures.

ASSOCIATIONS: Ukrainskiy institut metallov (Ukrainian Institute of Metals) and Zavod "Azovstal'" ("Azovstal'" Works)

Card 3/3

1. Iron--Production
2. Open hearth furnaces--Operation
3. Dippers--Applications

SOV/130-58-8-5/18
Pre-refining Pig Iron in Ladles with a Steam-oxygen Mixture

oxygen per ton of metal ($3-8 \text{ nm}^3$), oxidation of manganese and silicon increases. Steam consumption was regulated to prevent fume formation; the highest oxygen: steam ratios were obtained with large amounts of additions, which produced a protective slag layer. Both top blowing and lancing were tried, tube consumptions being 300-400 and 100 mm, respectively, per lancing. Temperatures were measured with platinum/platinum-rhodium thermocouples: the mean temperature rise during the lancing was $25-70^\circ \text{C}$, the rise with additions being greater because of the greater oxidation of silicon. Analysis of the metal showed that good mixing occurred during mixing. Metal losses were as follows: splashes, 0.51%, evolution in fume 0.04%. The hydrogen content of the metal was found to rise during lancing from 2.3 - 3.9 to 4.6 - 6.0 $\text{cm}^3/100 \text{ g}$, falling during pouring into the mixer to 4.2 - 4.3 $\text{cm}^3/100 \text{ g}$.

Card 2/3

SOV/130-58-8-5/18

AUTHORS: Shneyerov, Ya.A., Derfel', A.G., Kotin, A.G., Byl'skiy, M.T. and Alimov, A.G.

TITLE: Pre-refining Pig Iron in Ladles with a Steam-oxygen Mixture (Predvaritel'naya obrabotka chuguna v kovshakh parokislородnoy smes'yu)

PERIODICAL: Metallurg, 1958, Nr 8, pp 11 - 14 (USSR)

ABSTRACT: At the "Azovstal'" Works, hot metal forms 75% of the open-hearth furnace charge and conditions are therefore particularly suitable for pre-refining. A semi-full-scale installation (Figure 1) was constructed in the mixer house at the works. The authors describe tests on 130 ladles (114 phosphoric and 16 ordinary open-hearth grade). With 20-40% steam evolution of brown fumes was avoided. The following additions (in % of the weight of phosphoric iron) were also tested: limestone 1.5 and 3 with 1% ore in the latter case; ore, 2.5 and 5%; ore and limestone, 1.5 and 2.5% each. With the ordinary grade: limestone, 1.5; ore 1.5; ore and limestone 1.5 each. The authors describe the effects of the different additions on iron composition and lance consumption (which is associated with the formation of slag capable of coating the lance). With increasing consumption of

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TRIT'YAKOV, Ye.V.; SHNEYEROV, Ya.A.; KOTIN, A.G.

Using fluxed briquets and sinter cakes in open-hearth furnaces.
Bul. TSNIICM no.4:6-12 '58. (MIRA 11:5)
(Open-hearth process)

SHNEYEROV, Ya.A.; DERFEL', A.G.; KOTIN, A.G.; BUL'SKIY, M.T.; ALIMOV, A.G.

Preliminary treatment of pig iron in ladles with an oxygen-steam mixture. Metallurg 3 no.8:11-14 Ag '58. (MIRA 11:9)

1. Ukrainskiy institut metallov i zavod "Azovstal'."
(Iron--Metallurgy)
(Oxygen--Industrial applications)

KOTIN, A. G.

137-58-5-9104

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 51 (USSR)

AUTHOR: Shneyerov, Ya. A., Kotin, A. G.

TITLE: Means of Increasing the Productivity of Steel Smelting Shops
(Puti povysheniya proizvoditel'nosti staleplavil'nykh tsekhov)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1957, Nr 18,
pp 469-474

ABSTRACT: Bibliographic entry. Ref. RzhMet, 1958, Nr 1, abstract 353

1. Steel--Production 2. Steel--Processing

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KOTIN, A. G.

AUTHOR: Shneyerov, Ya.A. and Kotin, A.G.

130-8-7/20

TITLE: Ways of Increasing the Productivity of Open-hearth Shops
(Puti povysheniya proizvoditel'nosti martenovskikh tsekhov)

PERIODICAL: Metallurg, 1957, No.8, pp. 18 - 20 (USSR)

ABSTRACT: This is a report presented by the authors at the All-Union Steel-smelters' Conference. It is based on a study of the organisation of work in the open-hearth shops at the Magnitogorsk and Kuznetsk combines and the "Zaporozhstal'", "Azovstal'", imeni Kirov (imeni Kirova), imeni Voroshilov (imeni Voroshilova) and imeni Dzerzhinskiy (imeni Dzerzhinskogo) Works. From this study, conclusions on best organisational practice for shops with large-capacity furnaces were generalised. The authors contrast practice at Kuznetsk and Magnitogorsk on the one hand with that at the Southern Works. The aspects considered by the authors include preservation of furnace dimensions during a campaign, standardisation of charging, charging equipment and layout, constancy of hot-metal composition, slag-running, crane capacity and availability, pouring methods (until recently almost exclusively bottom-pouring at Southern Works), ingot stripping, furnace repairs and tapping practice.

ASSOCIATION: Ukrainian Institute of Metals (Ukrainskiy Institut Metallov)

AVAILABLE: Library of Congress.

Card 1/1

KOTIN, A.F., prof.

Physical substance of the concept of technical work capacity.
Izv. vys. ucheb. zav.; energ. 8 no.7:49-57 J1 '65.

(MIRA 18:9)

1. Gor'kovskiy politekhnicheskoy institut. Predstavlena kafedroy
termodynamiki i teplotekhniki.

KOTIN, A.F., kand.tekhn.nauk, dotsent

Physical meaning of the concept enthalpy. Trudy GPI 15 no.1:96-101
'61 [i.e. '59]. (MIRA 15:11)
(Enthalpy)

S/123/60/000/023/007/008
A005/A001

On the Problem of the Thermodynamical Investigation of Irreversible Processes in a Compressor-Turbine-Unit

literature. See also G. Yu. Stepanov, "Osnovy teorii lopatochnykh mashin" (Principles of the theory of blade engines), Mashgiz, 1958, p. 50, Rev.). A formula is derived allowing the determination of the efficiency decrease in a gas turbine unit in consequence of the irreversibility of the processes in the compressor and in the turbine (i. e., in consequence of the heat supply and heat recovery).

B. I. A.

Translator's note: This is the full translation of the original Russian abstract.

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26.2/20

S/123/60/000/023/007/008
A005/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1960, No. 23, p. 351,
129161

AUTHOR: Kotin, A. F.

TITLE:q On the Problem of the Thermodynamical Investigation of Irreversible
Processes in a Compressor-Turbine-Unit

PERIODICAL: Tr. Gor'kovsk. politekhn. in-ta, 1960, Vol. 14, No. 10, pp. 89-102

TEXT: The author explains the known proposition that the adiabatic efficiency of the compressor decreases with increasing compression ratio in consequence of the irreversibility of the process (i. e., in consequence of the additional heat supply), and the adiabatic efficiency of the turbine increases (in consequence of the heat recovery). Allowing for this inconstancy of the adiabatic efficiencies, the author recommends to carry the calculation presuming a given polytropic exponent of the process in the compressor and in the turbine (essentially, this signifies the presumption that the polytropic efficiency is constant; this method of calculating is used in the foreign, in particular in German

Card 1/2

KOTIN, A.F.

Forms for mathematical expression of the first law of thermodynamics. Nauch.dokl.vys.shkoly; energ. no.1:189-196 '59.
(MIRA 12:5)

1. Gor'kovskiy politekhnicheskoy institut.
(Thermodynamics)

L 22094-66

ACC NR: AP6012967

then, following this thermodynamically irreversible process, the system is no longer capable of performing work and can no longer serve as a source of energy even though from the physicist's standpoint the total energy of the bodies of the system has remained unchanged in the process of internal heat transfer. The exergy (working ability) of a system may increase only at the expense of the exergy of other systems or decrease owing to its transfer (through a heat flux or work done) to other systems. The increment in the energy of a body does not necessarily correspond to the increment in its exergy. On the basis of the concept of exergy new methods of research into heat exchangers and heat machines are being developed. It is to be expected that this concept will win universal recognition and acceptance, and become a basic concept of physics as well. Orig. art. has: 5 figures and 3 formulas. [JPRS]

SUB CODE: 20 / SUBM DATE: 04Apr66 / ORIG REF: 008 / OTH REF: 002

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L 22094-66 EWT(1)/ETC(f)/ENG(m)/ETC(m)-6 JW

ACC NR: AP6012967

SOURCE CODE: UR/0143/65/000/007/0049/0057

AUTHOR: Kotin, A. F. (Professor)

ORG: Gor'kiy Polytechnic Institute (Gor'kovskiy politekhnicheskiy institut) 49
B

TITLE: Physical nature of the concept of exergy 2/4/85

SOURCE: Izvestiya vysshikh uchebnykh zavedeniy. Energetika, no. 7, 1965, 49-57

TOPIC TAGS: thermodynamic law, heat exchanger, thermodynamics

ABSTRACT: Exergy, a concept first introduced by Z. RANT (Forsch. Ing. Wes., 22, No 1, 1956), and derived from the Greek word "work" to which is added the Latin prefix "ex" (from outside), refers to the practical concept of energy as opposed to its physical concept, particularly with respect to thermal energy. The exergy of a system is the ability of the system to perform work under conditions of a definite thermic state of the ambient medium. Just as the concept of energy is associated with the first law of thermodynamics, so the concept of exergy is associated with the second law. Thus, for example, an isolated thermodynamic system consisting of two bodies with different temperatures is capable of performing work (utilizing the direct cycle); hence, such a system, in the engineer's opinion, is an energy source. If, however, as a result of internal heat transfer, the temperatures of both bodies become mutually equalized,

Card 1/2

UDC: 536.1

KOTIN, A.F., kand.tekhn.nauk

Role of entropy in the investigation of heat machines. Trudy
GPI 14 no.1:66-73 '58. (MIRA 13:2)
(Heat engines) (Entropy)